

**MOTOROLA INC.**  
 Personal Communications Sector

**DISCLOSURE FOR PATENT COMMITTEE**
**SUBMITTED PURSUANT TO EMPLOYMENT AGREEMENT**
**FOR INSTRUCTIONS FOR COMPLETION REFER TO DISCLOSURE INSTRUCTION PROCEDURE**

Inventor must fill in items 1 thru 12.

Items 2 to 5 may require extra sheets. BE SURE they are signed, witnessed and attached.

1. Name of the invention. (Limit to ten words.)

*Memory Key*

2. State the problem(s) resolved by the invention.

*Reduces confusions, avoids having to memorize more numbers, and reduces call making time.  
Improves convenience factor.*

3. Describe the invention in detail. Include its operation, purpose, environment and how problem(s) were solved. (Use separate sheets as required.) (see attached sheet)

*By adding multiple, repeating, numbers as a memory location for phone/pager numbers, users can easily associate someone's numbers (office, home, cell, pager, etc.) into one set of memory location (i.e. 5, 55, 555, 5555, etc.).*

4. What new elements (e.g. components, circuits, process steps) or combinations of known elements or software algorithm produced the improvement(s) over known technology?

*A software update will allow this to happen. Instead of limiting the memory location from 0 to 99, include memory locations for repeating numbers (2, 22, 222, 2222, etc.) without having to create memory locations for all #beyond 99.*

5. List the closest known technology (attach article, patent, catalog sheet or other documentation).

N/A

6. What are the potential applications for use of this invention?

*Being the leader in cell phone innovation, the potential for this invention is very high. Any phones with key pads can benefit from this invention.*

7. Conception date? Attach earliest log sheets, drawings, etc., to support date?

8. To whom did you first disclose this invention? Name: Mark Janninck Date:

9. Date the device was first built and tested. NA

Present location of the device?

**DETERMINATION OF LEGAL INVENTORSHIP FOR PATENT APPLICATION MUST BE MADE BY THE PATENT DEPARTMENT.**
**Inventor's signature (IMPORTANT - YOU MUST USE YOUR FULL FIRST, MIDDLE AND LAST NAMES).**

|   |                                |                              |   |
|---|--------------------------------|------------------------------|---|
| 10. Inventor's Full Name: (Type)<br><i>Han S. Cho</i>       | Signature<br><i>Han S. Cho</i> | Date<br>[Redacted]           | Social Sec. No.<br><i>10311872</i>  |
| Home Address: Street<br><i>1676 Valley Forge Ct. Unit C</i> | City<br><i>Wheaton</i>         | State<br><i>IL</i>           | Country<br><i>USA</i>   |
| Citizen of (i.e. U.S., Germany, Etc.)<br><i>U.S.</i>        | Dept. No.<br><i>BB590</i>      | Phone<br><i>847-523-4931</i> | Room No.<br><i>AN253</i>  |
|   |                                |                              | Employee Status<br><input checked="" type="checkbox"/> Permanent<br><input type="checkbox"/> Contractor |

|                                       |           |       |  |
|---------------------------------------|-----------|-------|--|
| 11. Inventor's Full Name: (Type)      | Signature | Date  | Social Sec. No.                            |
| Home Address: Street                  | City      | State | Country                                    |
| Citizen of (i.e. U.S., Germany, Etc.) | Dept. No. | Phone | Room No.                                   |
|                                       |           |       | Employee Status<br>Permanent<br>Contractor |

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|                                       |  |   |       |          |  |
|---------------------------------------|--|---|-------|----------|--|
| Page 2 - Disclosure No.               |  | Security Classification<br>Motorola Confidential Proprietary (when completed) |       |          |  |
| 12. Inventor's Full Name: (Type)      |  | Signature   |       | Date     | Social Sec. No.                            |
| Home Address: Street                  |  | City  |       | State    | Country Zip Code                           |
| Citizen of (i.e. U.S., Germany, Etc.) |  | Dept. No.   | Phone | Room No. | Employee Status<br>Permanent<br>Contractor |

Witness signatures (TWO WITNESSES ARE REQUIRED)

Witness must sign and date this form and all attachments.

THE WITNESSES IN SIGNING THIS FORM ATTEST TO THE FACT THAT THEY UNDERSTAND THE INVENTION.

|   |                                  |                    |                       |
|---|----------------------------------|--------------------|-----------------------|
| 13. Witness Name (Type)<br>Adam R. Cole | Signature<br><i>Adam R. Cole</i> | Date<br>[Redacted] | Phone<br>847-523-8783 |
| 14. Witness Name (Type)<br>MARK JANNICK | Signature<br><i>Mark Jannick</i> | Date<br>[Redacted] | Phone<br>3-0344       |

Items 15 to 25 are to be filled in by the ENGINEERING and MARKETING/PRODUCT MANAGER or equivalent. Use separate sheets as required.

THE MANAGERS IN SIGNING THIS FORM ATTEST THAT THEY UNDERSTAND THE INVENTION

15. What product will this invention be used in? (No code names - use brief description if necessary)  
*could be used in any phones with key boards.*

16. When (was) (will) the first offer for sale of a product incorporating this invention (be) made?  
Date: *NA*

17. When is the estimated shipping date?  
*NA*

18. When (was) (will) the first disclosure outside of Motorola (be) made? How and to whom? Nondisclosure agreement signed? State title and date of publication, if any.

19. What is the market for products incorporating this invention?  
*As more manufacturers need to improve user interface, simplifying and updating our usability of the phone makes this idea a critical element*

20. Who are the potential competitors? What is the possibility this invention will be used by competitors?  
Which ones? *All competitors are looking to improve user interface and user simplicity.*

21. Did this invention result from work on a development contract: (YES) (NO) Contract No. \_\_\_\_\_  
Who was the contracting party?

22. Discuss the business impact that this invention will have on Motorola. Be specific and quantitative.  
*The market for cell phones will be over 400 million in 2001. Consumers will pay more attention to user interface or user simplicity when making purchase decisions.*

|   |                                      |                    |                    |                 |
|---|--------------------------------------|--------------------|--------------------|-----------------|
| 23. Engineering Manager's Name (Type)<br>Scott D. Beutzel | Signature<br><i>Scott D. Beutzel</i> | Date<br>[Redacted] | Dept. No.<br>89574 | Phone<br>3-5570 |
|---|--------------------------------------|--------------------|--------------------|-----------------|

|   |           |      |           |       |
|---|-----------|------|-----------|-------|
| 24. Product/Marketing Manager's Name (Type) | Signature | Date | Dept. No. | Phone |
|---|-----------|------|-----------|-------|

25. The Manager must determine the security classification of this information. See Personnel Policy #840, and Corporate SOP E60, Protection of Proprietary Information.

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Purpose of this idea is to add convenience and simplicity to already hectic user interface. It will be nice to associate all the telecommunication numbers of one person to one particular character from 1 to 9 for the 9 most active people dialed.

For instance: If I associate my boss with number 7, I can appoint all of his contact information into memory locations that contain only character 7. I can assign his Cell phone number to memory location 7, Home number to memory location 77, Office number to memory location 777, and his Pager number to memory location 7777, etc. I don't need to scroll through names and number, press a lot of numbers, and have constant visual contact with the display screen trying to make a selection. The last digit pressed can be held so that it can act as a "send" command and can be used to distinguish recalling information from the memory location and not trying to dial that particular number (dialing 555 and pressing "send" will connect to Verizon operator assistance instead of dialing the number stored under that location; pressing and holding the last digit "5" can be programmed to look for the number stored under that location).

Every phone I experienced only had memory locations 1 to 99.

There may be no need to expand the memory locations beyond this, other than repeated numbers.

*John C. [illegible]*  
*Adam R. [illegible]*  
*Mal [illegible]*